

Beta Buildings D&D

Scope: The Beta Buildings Deactivation and Decommissioning (D&D) project will demolish two Beta Building complexes at the Y-12 National Security Complex (Y-12) that have been declared excess to the site mission needs. The project objective is to remove hazardous materials, deactivate the buildings, remove equipment, demolish the facilities, and disposition waste. Each of the two complexes that will be demolished consists of a large process-contaminated facility and ancillary facilities:

- **Beta-1 Complex** [the Beta-1 facility (Building 9204-1); ancillary Buildings 9422 and 9501-4]
- **Beta-4 Complex** [the Beta-4 facility (Building 9204-4); ancillary Buildings 9404-16, 9409-20, 9501-9, 9720-22, 9720-24, 9802-1, 9802-2, 9811-1, 9811-4, 9811-5, and 9983-78]

The project will also deactivate three facilities that will be retained for historic preservation purposes, including Beta-3, a Manhattan Project Signature Facility:

- **Deactivation Only Complex** [the Beta-3 facility (Building 9204-3) and ancillary Building 9501-8; and the Laboratory and Storage Facility (Building 9731);]

The Beta Buildings were constructed in the 1940s and used for uranium enrichment and other operations. The Beta-4 facility used large quantities of mercury for lithium isotope separation processes, resulting in mercury contamination to the buildings and the environment. The Beta Building and Deactivation Only complexes total approximately 860,000 ft² and are planned for D&D (or deactivation only) by the Integrated Facility Disposition Program (IFDP) at an estimated cost of \$859M.

Environmental Risk and Principal Threat Source Material Rating: **Medium**

- Potential collapse of the Beta Buildings due to facility deterioration could result in environmental release of radiological and chemical contamination.
- D&D of the Beta-4 Building will allow access to residual mercury contamination that exists within soil and shallow groundwater beneath and adjacent to the building, which is a contributing source of mercury flux to nearby Upper East Fork Poplar Creek.

Other Prioritization Factors:

- Airborne mercury poses a continual hazard to workers in the Beta-4 facility and is a minor contributor to ambient air mercury concentrations at the Y-12 site.
- Facility deterioration could increase the complexity and cost of facility D&D and impede facility preservation plans. Surveillance and maintenance costs will continue until the facilities undergo D&D.
- In addition to cleanup cost, potential building collapse could disrupt portions of Y-12 site operations and cost millions of dollars a day in lost productivity.
- Delay of the Beta Buildings D&D project would delay the planned transformation of Y-12 into a modernized, cost-effective Nuclear Weapons Complex. Plans to reduce the size of the protected area, thereby reducing security requirements and operational cost, would be postponed.

Overall Prioritization: **Medium**

The Beta-4 Building is the first Beta building slated for D&D by IFDP at Y-12. The overall prioritization for the Beta Buildings D&D project is **Medium**.

The information presented in this fact sheet is preliminary and will be refined during Critical Decision-2/3 development.

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For more information, please contact the DOE public affairs office at (865) 576-0885.

